

ABSTRACT

This disclosure describes an operand file, a device that combines the functions of a register file, a reservation station, and a rename buffer into single storage element. The advantage of this mechanism is that it eliminates copying results and operands between the register file, reservation station, and rename buffer, thereby greatly simplifying the design and reducing area and power consumption. Furthermore, it can also be used in multithreaded processors that spawn children threads by copying some or all of the parent thread's registers to each of the children thread's registers.